

CAMIROS

#35

CONSULTANTS IN PLANNING, ZONING, ECONOMIC DEVELOPMENT AND LANDSCAPE ARCHITECTURE

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Old green roof in Romania



New green roof in Chicago

What goes around comes around! Sustainable concepts such as green roofs aren't necessarily new. Many have been forgotten during our embrace of technology, only to be rediscovered as our needs and values change.

SUSTAINABILITY AUDITS FOR RESPONSIBLE ZONING

It seems that “sustainability” is in the air. Every planning and design article argues for sustainability. Every plan that we draft or read includes sustainable actions. Sustainability is important. But how do we go about making city development sustainable? We suggest that sustainable development is the way we manage our policies and our regulations to improve the quality of human life so as to live within the carrying capacity of our environmental systems.

Ethically, urban planning and development policy has always been concerned with sustainability. What planner thinks of their work as purposefully depleting or permanently damaging natural and human resources? What planning professional or civic leader purposefully supports a pattern of sprawling urban development? But if these concerns remain only a policy, it is difficult to assure that sustainable objectives can be

achieved. To do so we need to look to regulation, and no one set of regulations offers more potential to positively address sustainability than the zoning ordinance.

While traditionally developed for the purpose of regulating land use impacts and achieving specific community land use policy, the requirements of municipal ordinances impact the natural environment and the type and amount of energy consumed within a community. For example, zoning and subdivision regulations structure a community's pattern and style of housing development, its level of walkability, the demand upon its natural systems, and the type of transportation services required. From this perspective, it is clear that development regulations, and the policies that undergirds its structure, represents a potent tool to help a municipality create an energy efficient, and more sustainable, community.

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(continued from page 1) The assessment of a zoning ordinance for sustainability policies is a complex endeavor. We are all familiar with the notion of unanticipated consequences, and nowhere does it play out as completely as in zoning. A change in one regulation may inadvertently affect another. For example, in order to accommodate parking we tend to excessively pave areas resulting in increased runoff. We limit the types of accessory uses permitted on a lot, which often restricts the use of renewable energy devices and technologies. We do not include flexibility in ordinance regulations that would allow for adaptive reuse of existing structures. These requirements were not established to purposefully conflict with sustainability goals, but they resulted from trying to meet specific community goals. However, creating sustainable, energy efficient places requires us to test the impact of commonly held assumptions to be sure that our plans and ordinances do not produce such unanticipated consequences.

To that end, sustainable development policy, and the resulting regulation, needs to comprehensively address all quality of life issues within an ordinance. And, sustainable development regulations need to reach beyond direct environmental impacts to consider how land use regulation:

- Accommodates alternative energy sources
- Increases walkability, encourages biking and fosters choice in transportation
- Provides public transit linkages
- Allows for and incentivizes green building techniques
- Incorporates sustainable landscaping and stormwater management
- Protects natural resources

One way to make this assessment is to undertake a “sustainability audit” of the development regulations. The audit reviews all of the community’s ordinances and assesses the roadblocks and omissions to renewable energy and broader issues of sustainability by uncovering those regulations that can be labeled “unsustainable.” The ordinance is reviewed through

the lens of sustainability, and a series of potential revisions and additions is compiled. Once the audit is complete, one can suggest how to best tackle the issues identified through changes in regulation or in broader community policy.

The core of the audit process is a broad review of the ordinance to assess how regulations should allow for and encourage a variety of sustainable and green development techniques, improve opportunities for renewable energy, and take advantage of existing resources. This can range from large-scale development concepts like traditional neighborhood development and conservation design to regulations and permissions for site-specific elements like solar panels, wind turbines and the use of pervious pavers. Sustainable ordinances should:

1. Reduce barriers to sustainable development
2. Create incentives for new development, as well as flexibilities for the retrofitting of existing development, to incorporate sustainable design and technologies
3. Set standards for these techniques that make permissions clear and address potential impacts
4. Measure and quantify the results of implementation over time

More specifically, a sustainability audit focuses on the following areas:

1. Permitted accessory structures, including alternative energy technologies
2. Emerging “green” principal uses
3. Permitted densities
4. Sustainable development techniques, both small-scale and large-scale
5. Adaptive reuse and retrofitting of existing structures
6. Incorporating green building techniques, including the ability to incentivize their use and monitor their efficiency
7. Landscaping and stormwater management

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(continued from page 2) Camiros has developed the following checklist for an ordinance audit. The product of this audit should be a list of changes or additions to an ordinance, or a guide to drafting a new one. This evaluation often suggests

ways to restructure broader urban development policy as well as the details of ordinance regulation. The audit is a practical way to address community-wide goals to improve the quality of life for all citizens.

Focus	Strategies	Examples of Actions
Accessory Structures	<ul style="list-style-type: none"> Allow for various sustainable accessory structures and alternative energy solutions Retrofit existing ordinances to accommodate these uses Create standards to mitigate their impact, both performance-based and aesthetically-based 	<ul style="list-style-type: none"> Solar panels Geo-thermal energy systems Wind turbines Cisterns and rain barrels Exterior lighting standards to minimize light pollution Recycling bins
Emerging "Green" Principal Uses	<ul style="list-style-type: none"> Allow for new principal uses related to emerging alternative energy Retrofit existing ordinances to accommodate these uses Define the balance between development policy within districts & the impacts of these uses Create standards to mitigate their impact, both performance-based and aesthetically-based 	<ul style="list-style-type: none"> Solar and wind farms Geothermal plants Recycling facilities Composting facilities Community gardens and urban agriculture Local food production facilities Farmer's markets
Permitted Densities	<ul style="list-style-type: none"> Evaluate the permitted density in all districts to see if they match what can be accommodated or should be allowed Assess whether there are older development policies in the current ordinance that do not reflect an existing denser pattern of development 	<ul style="list-style-type: none"> Increase the permitted density where a range of services are available, creating a mixed-use environment Implement "minimum" densities for new development in certain areas Density bonuses for incorporating sustainable development techniques
Sustainable Development Standards: Small-Scale	<ul style="list-style-type: none"> Evaluate current standards to assess if key aspects of sustainable development are addressed Incorporate new standards for alternate modes of transportation Revise parking standards to reduce auto-orientation and auto-dependence where appropriate 	<ul style="list-style-type: none"> Impervious surface and lot coverage requirements Pervious materials permissions Building siting requirements for passive solar access Parking alternatives: shared parking, cross-access agreements, land banking Parking maximums and parking prohibitions Car-sharing permissions and incentives
Sustainable Development Standards: Large-Scale	<ul style="list-style-type: none"> Include development requirements that take advantage of existing services Create protections for natural resources Evaluate subdivision regulations to eliminate unsustainable requirements and incorporate flexibilities Encourage innovative development practices 	<ul style="list-style-type: none"> Requirements for mixed-use, TOD or TND development in key areas Requirements for conservation design for areas where natural resource preservation is needed Incorporate "complete streets" design
Adaptive Reuse of Existing Structures	<ul style="list-style-type: none"> Encourage the reuse of older buildings through zoning flexibilities Eliminate ordinance provisions that encourage teardowns 	<ul style="list-style-type: none"> Nonconformity flexibilities for reuse of existing older buildings including elimination of required variances for reuse Flexible parking & loading standards for existing older buildings
Green Building Techniques	<ul style="list-style-type: none"> Encourage new construction that takes advantage of green building techniques Allow for energy efficient retrofitting of existing structures 	<ul style="list-style-type: none"> Building code obstacles to green building Creating incentives that encourage green building and LEED certified structures
Landscaping & Stormwater Management	<ul style="list-style-type: none"> Require comprehensive landscaping standards Incorporate sustainable stormwater management practices Include incentives for sustainable stormwater management practices 	<ul style="list-style-type: none"> Native landscaping & low water landscaping Parkway tree requirements Tree preservation ordinance Stormwater management practices: Permeable pavers and porous paving